

*AMENDMENTS TO THE CLAIMS*

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A semiconductor laser device which emits light at ~~an~~ at least one oscillation wavelength, the laser device comprising a reflective film including a multilayer dielectric film, on at least one side of an optical exit face of a laser chip, wherein

the reflective film includes, in sequence from a side in contact with the laser chip, a first dielectric film ~~of having~~ having a refractive index  $n_1$ , a second dielectric film ~~of having~~ having a refractive index  $n_2$ , a third dielectric film ~~of having~~ having a refractive index  $n_3$ , and a fourth dielectric film ~~of having~~ having a refractive index  $n_4$ , ~~and~~

$n_2 = n_4 < n_1 < n_3$ , and

the reflective film has a reflectance within a range of 3% to 15% at at least one of the oscillation wavelengths.

2. (Currently Amended) A semiconductor laser device which emits light at ~~an~~ at least one oscillation wavelength, the laser device comprising a reflective film including a multilayer dielectric film, on at least one side of an optical exit ~~faces~~ face of a laser chip, wherein

the reflective film includes, in sequence from a side in contact with the laser chip, a first dielectric film ~~of having~~ having a refractive index  $n_1$ , a second dielectric film ~~of having~~ having a refractive index  $n_2$ , a third dielectric film ~~of having~~ having a refractive index  $n_3$ , and a fourth dielectric film ~~of having~~ having a refractive index  $n_4$ , ~~and~~

$n_2 = n_4 < n_3 < n_1$ , and

the reflective film has a reflectance within a range of 3% to 15% at at least one of the oscillation wavelengths.

3. (Currently Amended) The semiconductor laser device according to Claim 1, wherein each of the first, second, third, and fourth dielectric films has a thickness, in terms of optical length, within  $\pm 30\%$  of a thickness that is an integer multiple of  $1/4$  of the at least one oscillation wavelength of the semiconductor laser device.

4. (Currently Amended) The semiconductor laser device according to Claim 2, wherein each of the first, second, third, and fourth dielectric films has a thickness, in terms of optical length, within  $\pm 30\%$  of a thickness that is an integer multiple of  $1/4$  of the at least one oscillation wavelength of the semiconductor laser device.

5. (Currently Amended) A semiconductor laser device which emits light ~~of an~~ at at least one oscillation wavelength,  $\lambda$ , comprising:

a reflective film including a multilayer dielectric film, on at least one side of optical exit faces of a laser chip, wherein

the reflective film has a reflectance of 3% to 15% and includes, in sequence from a side in contact with the laser chip, a first dielectric film of a refractive index  $n_1$  and a thickness  $d_1$ , a second dielectric film of a refractive index  $n_2$  and a thickness  $d_2$ , a third dielectric film of a refractive index  $n_3$  and a thickness  $d_3$ , and a fourth dielectric film of a refractive index  $n_4$  and a thickness  $d_4$ ,

the refractive index  $n_1$  satisfies  $1.6 < n_1 \leq 1.9$ , the refractive index  $n_2$  satisfies  $1.3 \leq n_2 \leq 1.6$ , the refractive index  $n_3$  satisfies  $1.9 < n_3 \leq 2.3$ , and the refractive index  $n_4$  satisfies  $1.3 \leq n_4 \leq 1.6$ , and

the thickness  $d_1$  is substantially equal to  $(2 \cdot h + 1)\lambda / (4 \cdot n_1)$ , the thickness  $d_2$  is substantially equal to  $(2 \cdot i + 1)\lambda / (4 \cdot n_2)$ , the thickness  $d_3$  is substantially equal to  $(2 \cdot j + 1)\lambda / (4 \cdot n_3)$ , and the thickness  $d_4$  is substantially equal to  $(2 \cdot k + 1)\lambda / (4 \cdot n_4)$ , and each of  $h$ ,  $i$ ,  $j$ , and  $k$  is zero or a positive integer.

6. (Currently Amended) A semiconductor laser device which emits light ~~of an~~ at at least one oscillation wavelength  $\lambda$ , the laser device comprising:

a reflective film including a multilayer dielectric film, on at least one side of optical exit faces of a laser chip, wherein

the reflective film has a reflectance of 3% to 15% and includes, in sequence from a side in contact with the laser chip, a first dielectric film of a refractive index  $n_1$  and a thickness  $d_1$ , a second dielectric film of a refractive index  $n_2$  and a thickness  $d_2$ , a third dielectric film of a refractive index  $n_3$  and a thickness  $d_3$ , and a fourth dielectric film of a refractive index  $n_4$  and a thickness  $d_4$ ,

the refractive index  $n_1$  satisfies  $1.9 < n_1 \leq 2.3$ , the refractive index  $n_2$  satisfies  $1.3 \leq n_2 \leq 1.6$ , the refractive index  $n_3$  satisfies  $1.6 < n_3 \leq 1.9$ , and the refractive index  $n_4$  satisfies  $1.3 \leq n_4 \leq 1.6$ , and

the thickness  $d_1$  is substantially equal to  $(2 \cdot h + 1)\lambda / (4 \cdot n_1)$ , the thickness  $d_2$  is substantially equal to  $(2 \cdot i + 1)\lambda / (4 \cdot n_2)$ , the thickness  $d_3$  is substantially equal to  $(2 \cdot j + 1)\lambda / (4 \cdot n_3)$ , and the thickness  $d_4$  is substantially equal to  $(2 \cdot k + 1)\lambda / (4 \cdot n_4)$ , each of  $h$ ,  $i$ ,  $j$ , and  $k$  is zero or a positive integer.

7. (Previously Presented) The semiconductor laser device according to Claim 1, wherein the first dielectric film is selected from the group consisting of  $\text{Al}_2\text{O}_3$ ,  $\text{CeF}_3$ ,  $\text{NdF}_3$ ,  $\text{MgO}$ , and  $\text{Y}_2\text{O}_3$ , the second and fourth dielectric films are selected from the group consisting of  $\text{SiO}_2$ ,  $\text{MgF}_2$ ,  $\text{BaF}_2$ , and  $\text{CaF}_2$ , and the third dielectric film is selected from the group consisting of  $\text{Ta}_2\text{O}_5$ ,  $\text{SiO}$ ,  $\text{ZrO}_2$ ,  $\text{ZnO}$ ,  $\text{TiO}$ ,  $\text{TiO}_2$ ,  $\text{ZnS}$ ,  $\text{Nb}_2\text{O}_5$ ,  $\text{HfO}_2$ , and  $\text{AlN}$ .

8. (Previously Presented) The semiconductor laser device according to Claim 5, wherein the first dielectric film is selected from the group consisting of  $\text{Al}_2\text{O}_3$ ,  $\text{CeF}_3$ ,  $\text{NdF}_3$ ,  $\text{MgO}$ , and  $\text{Y}_2\text{O}_3$ , the second and fourth dielectric films are selected from the group consisting of  $\text{SiO}_2$ ,  $\text{MgF}_2$ ,  $\text{BaF}_2$ , and  $\text{CaF}_2$ , and the third dielectric film is selected from the group consisting of  $\text{Ta}_2\text{O}_5$ ,  $\text{SiO}$ ,  $\text{ZrO}_2$ ,  $\text{ZnO}$ ,  $\text{TiO}$ ,  $\text{TiO}_2$ ,  $\text{ZnS}$ ,  $\text{Nb}_2\text{O}_5$ ,  $\text{HfO}_2$ , and  $\text{AlN}$ .

9. (Previously Presented) The semiconductor laser device according to Claim 2, wherein the first dielectric film is selected from the group consisting of  $\text{Ta}_2\text{O}_5$ ,  $\text{SiO}$ ,  $\text{ZrO}_2$ ,

ZnO, TiO, TiO<sub>2</sub>, ZnS, Nb<sub>2</sub>O<sub>5</sub>, HfO<sub>2</sub>, and AlN, the second and fourth dielectric films are selected from the group consisting of SiO<sub>2</sub>, MgF<sub>2</sub>, BaF<sub>2</sub>, and CaF<sub>2</sub>, and the third dielectric film is selected from the group consisting of Al<sub>2</sub>O<sub>3</sub>, CeF<sub>3</sub>, NdF<sub>3</sub>, MgO, and Y<sub>2</sub>O<sub>3</sub>.

10. (Previously Presented) The semiconductor laser device according to Claim 6, wherein the first dielectric film is selected from the group consisting of Ta<sub>2</sub>O<sub>5</sub>, SiO, ZrO<sub>2</sub>, ZnO, TiO, TiO<sub>2</sub>, ZnS, Nb<sub>2</sub>O<sub>5</sub>, HfO<sub>2</sub>, and AlN, the second and fourth dielectric films are selected from the group consisting of SiO<sub>2</sub>, MgF<sub>2</sub>, BaF<sub>2</sub>, and CaF<sub>2</sub>, and the third dielectric film is selected from the group consisting of Al<sub>2</sub>O<sub>3</sub>, CeF<sub>3</sub>, NdF<sub>3</sub>, MgO, and Y<sub>2</sub>O<sub>3</sub>.

11. (Currently Amended) The semiconductor laser device according to Claim 1, including a fifth dielectric film and a sixth dielectric film ~~in on a first region of the reflective film, other than but not on a light-emitting point optical exit faces on second region of the laser chip reflective film,~~ and reflectance of the first region ~~other than the light-emitting point~~ is smaller than reflectance of the second region ~~of the light-emitting point~~.

12. (Currently Amended) The semiconductor laser device according to Claim 2, including a fifth dielectric film and a sixth dielectric film ~~in on a first region of the reflective film, other than but not on a light-emitting point optical exit faces on second region of the laser chip reflective film,~~ and reflectance of the first region ~~other than the light-emitting point~~ is smaller than reflectance of the second region ~~of the light-emitting point~~.

13. (Previously Presented) The semiconductor laser device according to Claim 11, wherein each of the fifth and sixth dielectric films has a thickness, in terms of optical length, within  $\pm 30\%$  of range of an integral multiple of  $1/4$  of the oscillation wavelength of the semiconductor laser device.

14. (Previously Presented) The semiconductor laser device according to Claim 12, wherein each of the fifth and sixth dielectric films has a thickness, in terms of optical length, within  $\pm 30\%$  of range of an integral multiple of  $1/4$  of the oscillation wavelength of the semiconductor laser device.

15. (Previously Presented) The semiconductor laser device according to Claim 13, wherein the fifth dielectric film is selected from the group consisting of  $\text{Al}_2\text{O}_3$ ,  $\text{CeF}_3$ ,  $\text{NdF}_3$ ,  $\text{MgO}$ , and  $\text{Y}_2\text{O}_3$ , and the sixth dielectric film is selected from the group consisting of  $\text{SiO}_2$ ,  $\text{MgF}_2$ ,  $\text{BaF}_2$ , and  $\text{CaF}_2$ .

16. (Previously Presented) The semiconductor laser device according to Claim 14, wherein the fifth dielectric film is selected from the group consisting of  $\text{Al}_2\text{O}_3$ ,  $\text{CeF}_3$ ,  $\text{NdF}_3$ ,  $\text{MgO}$ , and  $\text{Y}_2\text{O}_3$ , and the sixth dielectric film is selected from the group consisting of  $\text{SiO}_2$ ,  $\text{MgF}_2$ ,  $\text{BaF}_2$ , and  $\text{CaF}_2$ .

Claims 17-20 (Cancelled).

21. (New) A semiconductor laser device according to Claim 1, wherein the first dielectric film is in contact with the optical exit face.

22. (New) A semiconductor laser device according to Claim 2, wherein the first dielectric film is in contact with the optical exit face.